Comparisons of Job Characteristics

Focus Occupation: Mechanical Engineers (17-2141)
Associated Occupation: Engineers, All Other (17-2199)

Compare Knowledge
Compare Skills
Compare Abilities
Compare Detailed Work Activities
Compare Tools and Technologies

<<	Focus occupation element is much lower
<	Focus occupation element is lower
0	Focus occupation element is at a similar level
>	Focus occupation element is at a higher level
>>	Focus occupation element is at a much higher level

Knowledge

Similarity of Focus Occupation to Associated Occupation: 97

Focus Occupation: Mechanical Engineers (17-2141)
Associated Occupation: Engineers, All Other (17-2199)

Associated Occupation's Key Knowledge Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating		Evaluation of Focus Occupation
Engineering and Technology	5.7	20.1	21.5	0	Current knowledge level may be sufficient
Mathematics	9.2	17.1	18.1	0	Current knowledge level may be sufficient
Design	5.2	16.5	21.0	>>	Current knowledge level is likely more than sufficient
Computers and Electronics	8.4	15.0	13.4	<	Expanded education and/or training may be required
Physics	4.3	14.8	15.3	0	Current knowledge level may be sufficient
Mechanical	6.8	14.0	18.1	>>	Current knowledge level is likely more than sufficient
Production and Processing	6.0	12.9	14.2	>	Current knowledge level is likely sufficient
Building and Construction	4.0	6.6	6.4	0	Current knowledge level may be sufficient

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Skills

Similarity of Focus Occupation to Associated Occupation: 91

Focus Occupation: Mechanical Engineers (17-2141)
Associated Occupation: Engineers, All Other (17-2199)

Associated Occupation's Key Skills Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating		Evaluation of Focus Occupation
Mathematics	6.2	12.8	15.3	>	Skill level is likely sufficient
Systems Analysis	6.5	11.7	11.7	0	Current skill level may be sufficient
Science	4.5	11.4	13.6	>	Skill level is likely sufficient
Systems Evaluation	6.4	11.1	12.0	0	Current skill level may be sufficient
Operations Analysis	5.0	10.8	13.0	>	Skill level is likely sufficient
Technology Design	2.6	7.9	11.0	>>	Skill level is likely more than sufficient

Equipment Selection	3.3	6.3	6.5	0	Current skill level may be sufficient
Programming	2.2	5.3	7.5	>>	Skill level is likely more than sufficient

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Abilities

Similarity of Focus Occupation to Associated Occupation: 97

Focus Occupation: Mechanical Engineers (17-2141)
Associated Occupation: Engineers, All Other (17-2199)

Associated Occupation's Key Abilities Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating		Evaluation of Focus Occupation
Written Comprehension	11.0	15.1	15.8	0	Current ability level may be sufficient
Deductive Reasoning	10.6	15.0	15.8	0	Current ability level may be sufficient
Inductive Reasoning	10.2	13.7	12.8	0	Current ability level may be sufficient
Mathematical Reasoning	6.3	13.4	15.7	>	Current ability level is likely sufficient
Information Ordering	9.9	13.2	15.4	>	Current ability level is likely sufficient
Category Flexibility	9.0	12.3	12.7	0	Current ability level may be sufficient
Originality	7.6	11.8	11.5	0	Current ability level may be sufficient
Visualization	7.5	11.7	12.7	0	Current ability level may be sufficient
Number Facility	6.3	11.6	13.0	>	Current ability level is likely sufficient
Fluency of Ideas	7.6	11.4	10.6	0	Current ability level may be sufficient

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

There are no common work activities.

Tools and Technologies that Both Occupations Have in Common

Similarity of Focus Occupation to Associated Occupation: 82

Focus Occupation: Mechanical Engineers (17-2141)
Associated Occupation: Engineers, All Other (17-2199)

Tools and Technologies	Exclusivity
Bandsaws and accessories	26
Business function specific software	1
Cameras	2
Chemical evaluation instruments and supplies	10
Chromatographic measuring instruments and accessories	16
Computer data input devices	2
Computer printers	2
Computers	1
Content authoring and editing software	1
Crystallography equipment	23
Data management and query software	1
Development software	4

Electrical measuring and testing equipment	7
Electronic and communication measuring and testing instruments	14
Electronic manufacturing and processing machinery	56
Finance accounting and enterprise resource planning ERP software	2
Gas analyzers and monitors	10
Hydraulic presses	25
Indicating and recording instruments	2
Industry specific software	1
Integrated circuits	18
Laboratory environmental conditioning equipment	24
Laboratory furnaces and accessories	26
Laboratory ovens and accessories	15
Length and thickness and distance measuring instruments	2
Light and wave generating and measuring equipment	4
Liquid and gas flow measuring and observing instruments	15
Machine tools	7
Machinery for working wood and stone and ceramic and the like	12
Mechanical instruments	14
Metals and metallurgy and structural materials testing instruments	15
Non destructive examination equipment	13
Pharmaceutical industry machinery and equipment and supplies	31
Power tools	2
Soldering and brazing and welding machinery and supplies	6
Spectroscopic equipment	10
Temperature and heat measuring instruments	6
Transducers	23
Viewing and observing instruments and accessories	4
Weight measuring instruments	7

Not all positions in these occupations will necessarily use all of the listed tools and technologies. The exclusivity rating is an indication of how unique the tool or technology is amongst all occupations. The maximum rating is 100. High scores indicate that only a small number of occupations use that tool or technology.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.